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EXAMINER

BEFUMO, JENNA LEIGH

ART UNIT PAPER NUMBER

1771

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/927,034

Applicant(s)

BEBBER ET AL.

Examiner

Jenna-Leigh Befumo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8,10-15,17,18,20,23-25,41,42,45-51 and 55-81 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8,10-15,17,18,20,23-25,41,42,45-51 and 55-81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Amendment submitted on April 21, 2004, has been entered. Claims 1 – 7, 9, 16, 19, 21, 22, 26 – 40, 43, 44, and 52 – 54 have been cancelled. Claims 8, 10 – 15, 17, 18, 20, 23 – 25, 41, 42, 45 – 51, 59, and 60 have been amended and claims 67 – 81 have been added. Therefore, the pending claims are 8, 10 – 15, 17, 18, 20, 23 – 25, 41, 42, 45 – 51, and 55 – 81.
2. The rejections to claims 9, 16, 19, 21, 22, 43, 44, and 52 – 54 are rendered moot by the cancellation of these claims.
3. The amendment is sufficient to overcome the objection to claim 60 set forth in section 3 of the previous Office Action.
4. The 35 USC 112 2<sup>nd</sup> paragraph rejections to the claims set forth in sections 6 – 11, 13, and 14 of the previous Office Action are withdrawn due to the Applicant's amendment's and arguments (response, pages 12 – 17).
5. The 35 USC 102/103 and 35 USC 103 rejections based on Mater et al. (5,118,558) are withdrawn since the background section of the disclosure was misinterpreted and it does not teach that Mater et al. uses yarns made with twists of up to 6 twists per inch and having an elliptical cross-section (response, pages 17 – 18).
6. The amendment is sufficient to overcome the 35 USC 102/103 rejections based on Cuccias (6,074,722) since Cuccias fails to teach the twist level and aspect ratio of the yarns used in the woven fabric.

### ***Drawings***

7. The drawings were received on January 30, 2004. These drawings are acceptable.

***Claim Rejections - 35 USC § 112***

8. Claims 8, 10 – 15, 17, 18, 20, 23 – 25, and 67 – 81 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. The phrase “less than 50% of the crossing points formed” in claim 8 is indefinite. The Applicant’s argues that the term “crossing points” would be understood by one in the art to be “the warp and fill yarn intersections apparent in a top view of a given length of fabric” (response, page 15). The Applicant then argues that the crossing points would only be “formed” when the weave is changed “from warp over fill to warp under fill or vive versa”. However, it is the Examiner’s position that if a “crossing point” is where the warp yarn crosses the fill yarn then the “crossing point” will be formed regardless of whether the warp is over or under the fill yarn and regardless of whether the warp changes from one configuration to the other. Therefore, all woven fabrics would form 100%. Finally, it is noted that the Examiner will not interpreted the term “formed” to be anything narrower in scope unless the Applicant provides a reference which establishes that a formed crossing point is only considered to be where the warp changes from being under the fill yarn to over the fill yarn or vice versa since the disclosure does not explicitly define the term. Claims 17, 67, and 78 are similarly rejected. Claims 10 – 15, 18, 20, 23 – 25, 68 – 77, and 79 – 81 are rejected due to their dependency on claim 8 or 67.

10. The phrase “helix angle consistent with a twist of 6 turns per inch in a 1500 denier yarn” in claims 68 – 70 is indefinite. As set forth in the previous Office Action, the helix angle of a 1500 denier yarn with 6 turns per would be different depending on the structure of the yarn and the polymeric material used to make the yarn. Since there are numerous types of polymers and

yarn structures, the helix angle will not be a set angle or even within a fairly small range. What is the structure of the yarn? Is the 1500 yarn with 6 turns per inch made up of multiple filaments which together total 1500 denier. Is the yarn made from two or three smaller yarns which are twisted together to form a 1500 denier yarn with 6 turns per inch. Or, is the yarn a 1500 denier monofilament with 6 turns per inch. And all these factors would also cause variations in the helix angle. Thus, the phrase is indefinite and these claims are not further examined on the merits.

11. The phrase "a sheet of yarns" in claim 79 is indefinite. It is unclear what a "sheet" of yarns is. Is the fabric a multi-layered woven structure, where the "sheet" would be one of the layers? Or, is a "sheet" of yarns a term to describe the yarns in one direction of the weave?

12. The term "different" in claim 80 is indefinite. How are the fabric layers "different" from one another? Are the fabric layers still woven layer with a small difference, such as twist, material, aspect ratio, weave pattern, or another construction parameter? Or are the fabric layers completely "different" with nothing alike in either layer?

***Claim Rejections - 35 USC § 102/103***

13. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

14. Claims 8, 14, 20, 24, 59, 62, 67, and 76 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Phillips (2,712,170) for the reasons of record.

Claims 8, 14, 24, 59, and 62 are rejected for the reasons of record. Amended claim 20 and newly added claims 67 and 76 are rejected for the same reasons set forth in the previous Office Action.

***Claim Rejections - 35 USC § 103***

15. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

16. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips.

The features of Phillips have been set forth in the previous Office Action. As well as teaching that the yarns can have essentially no twist, Phillips teaches that the yarns can be cabled yarns, in other words, yarns which are formed by twisting together multiple yarns (column 5, lines 26 – 28). Or, the yarns can be made from staple fibers (column 5, lines 5 – 7). Yarns made from staple fibers require some degree of twist to produce a yarn with good strength properties since the twist helps lock or bind the staple fibers together to form the yarn. Therefore, it would have been obvious for one having ordinary skill in the art to choose the claimed twist levels, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). One of ordinary skill in the art would be motivated to add some twist to the yarns either to ply yarns or fibers together, and at the same time not adding too much twist to the yarn that the level of twist puts the yarns under high stresses which weaken the overall yarn strength. Thus, claim 60 is rejected.

17. Claims 15 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips.

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Claim 15 is rejected for the reasons of record. Newly added claim 77 is rejected for similar reasons.

18. Claims 17 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips.

Claim 7 is rejected for the reasons of record. Newly added claim 78 is rejected for similar reasons.

19. Claims 23, 41, 42, 45, 50, 51, 61, and 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips.

Claims 23, 41, 45, and 61 rejected for the reasons of record. Amended claims 42, 50, and 51, and newly added claim 81 is rejected for similar reasons.

20. Claims 10 – 13, 18, 25, 63 – 66, 71 – 75, 79, and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Cuccias.

Claims 46 – 49 and 55 – 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips as applied to claim 41 or 50 above, and in further view of Cuccias.

Claims 10 – 13, 18, 25, 46 – 49, 55 – 58, and 63 – 66 are rejected for the reasons of record. Newly added claims 71 – 75, 79, and 80 are rejected for similar reasons.

21. Claims 8, 10 – 15, 17, 18, 20, 23 – 25, 41, 42, 45 – 51, and 55 – 81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cuccias in view of Phillips.

The features of Cuccias and Phillips have been set forth in the previous Office Action. Due to the amendments, the 102/103 rejections based on Cuccias have been withdrawn however, theses claims are now rejected over Cuccias in view of Phillips for the reasons set forth in section 25 of the previous Office Action.

***Response to Arguments***

22. Applicant's arguments filed January 30, 2004 have been fully considered but they are not persuasive. The Applicant argues that Phillips fails to teach the claimed invention because Phillips does not teach improving tear performance and discloses a method of flattening the yarns which would decrease the strength of the yarns (response, pages 20 – 23). The Applicant's arguments with respect to the fact that the prior art does not teach tear strength are not sufficient since inherent features, in this case the strength of a fabric, need not be recognized at the time of the invention. Further, since the prior art does teach all the structural limitations claimed by the Applicant it is reasonable to presume that the prior art would inherently have the same properties. It is the Applicant's burden to prove otherwise. And while the method used by Phillips might be different than the method used by the Applicant, the Applicant has provided no evidence to show that the prior art would not inherently have the claimed aggregate strength and strength ratio since the Applicant's arguments cannot take the place of evidence. Further, even if the method used by Phillips does decrease the strength that does not mean it will decrease the strength to below the claimed range. Until the Applicant provides evidence that the strength is lowered below the claimed range the rejection will be maintained. Additionally, it is noted the Applicant's arguments based on the fact that Phillips uses an older method to flatten the yarns is not persuasive since the Applicant is claiming the product and therefore, only the physical structure of the final product is given patentable weight. But also, the Applicant is not claiming any method steps or limitations which would require the final product have a structure which is a result of a specific process. Therefore, the rejections based on Phillips is maintained.

23. And with respect to the rejection based on Cuccias in view of Phillips, the arguments stating that Cuccias doesn't explicitly teach optimizing tear strength or improving tear strength

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are not sufficient since the prior art does not have to recognize a feature which is inherent to the prior art. Further, the Applicant has not provided any evidence that the structure produced by the combination of Cuccias and Phillips would not have the claimed properties. Finally, the Applicant only refers to the arguments for the individual references and does not argue the combination of the two references. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Therefore, the rejection is maintained.

#### ***Conclusion***

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

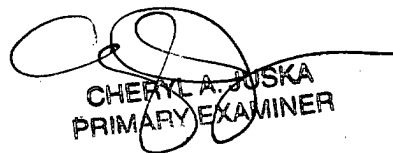
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jenna-Leigh Befumo  
July 26, 2004



CHERYL A. JUSKA  
PRIMARY EXAMINER